

Battery blues

When it comes to portable electronic devices, the weak link is clearly the battery. This would include lots of items, such as flashlights, GPS, two-way radios, cell phones and more. Neglect in the area of batteries can result in a ruined and worthless piece of equipment.



Tips from the Posse

By Mark Rackay

I carry a flashlight in my truck. Actually, I carry several, but one large light that lives in a holder on the console, ready to grab. I had not checked on the light in recent memory so decided to give it a try. Dead. No light at all.

So much for that 10-year shelf life of alkaline batteries. Simple fix, or so I thought, just put in new batteries. When I opened up the light, I first thought that old Murph, of Murphy's Law fame, had snuck in and borrowed my flashlight. The batteries ruptured and leaked a white substance inside the light, rendering it useless and destined for the landfill.

The positive side of a battery is made up of a compressed paste of manganese dioxide and carbon powder. The negative side of the battery is made up of a zinc powder in a gel containing the potassium hydroxide electrolyte. In short, the chemical reaction creates the electricity.

All batteries gradually self-discharge, whether they are in a device or sitting on a shelf at home. The chemical that is discharged from a leaking battery is potassium hydroxide, a caustic agent that can irritate your skin and cause respiratory and eye irritations.

All alkaline batteries will leak when discharged. If they have been exposed to high temperatures, such as sitting in a hot car all summer long, they will rupture and leak. Even when a battery is not in a device, storing in hot temperatures will drain the life from them.

Cold has a bad effect on alkaline batteries as well. This can result in that flashlight you are counting on during your winter excursion, to be rendered useless by Murph. The chemicals used in an alkaline battery are water based and cold weather can slow the process down, resulting in a loss of power. Frozen batteries are prone to leak when stored in a device.

In my case, storing the batteries in the light, exposing it to heat in the summer and freezing temperatures in the winter, constitutes the trifecta of bad battery care.

An alternative to alkaline batteries would be lithium ion batteries. Basically, the negative side of a lithium battery is made of carbon, while the positive side is made of a metal oxide. The electrolyte is a lithium salt in an organic compound.

All batteries suffer from reduced power in cold temperatures but lithium holds up much better. For temperatures below freezing, alkaline should really never be used, only lithium.

Batteries left in a device, whether lithium or alkaline will slowly discharge. Alkaline will leak while lithium will not. The moral is, don't store the batteries in your device or light. Pull them out when not in use and keep them with the device. I know that is an inconvenience but it is better than discovering the batteries are dead, and that will be when you really need the light.

Batteries stored at home should be kept in a cool and dark place, not exposed to temperature changes. I keep mine in a closet and rotate the ones in my



(Top) At first I thought Murphy had wrecked my flashlight, but soon realized it was my own fault. Battery neglect can ruin devices and equipment. (Submitted photo/Mark Rackay)

(Bottom) There are all kinds of batteries available but choosing the right one is what makes a difference. This is my battery supply. (Submitted photo/Mark Rackay)

packs regularly. Always carry extra batteries with you in your gear. Carry more than you think will be needed.

It really helps to try and have most or all of your battery-powered devices use the same type of battery. All of my flashlights, and I carry several, use the lithium CR 123 battery which makes carrying extras easy. The GPS and cameras all use standard AA sizes, so I am down to two types of batteries.

I have switched over everything to lithium batteries. They are more expensive than alkaline but the life expectancy far exceeds the additional cost. The lithium performs better in the heat and cold and I have never had a battery leak. The damaged equipment from a battery leak can far exceed the additional cost of lithium batteries.

Batteries are a relatively cheap investment, considering their worth when you truly need them.

Start each season with fresh batteries. The old ones can be used at home in a less than critical need place. By changing them out regularly, you will inspect the device for operation as well. When in doubt, throw them out.

Be sure to include battery maintenance in your preparedness schedule. I would love to blame Murphy for the ruined equipment from battery leaks, but truthfully, it's my own darn fault. Maybe I can blame it on the kids. I hope your flashlight works when you need it.

Mark Rackay is a columnist for the Montrose Daily Press and avid hunter who travels North America in search of adventure and serves as a director and public information officer for the Montrose County Sheriff's Posse. For information about the Posse, call 970-252-4033 (leave a message) or email info@mcspi.org.

CPW sees success in testing for wasting disease

By LAUREN TRUITT
COLORADO PARKS AND WILDLIFE

Although chronic wasting disease once again made headlines across the world in recent months, Colorado Parks and Wildlife staff has been studying the disease over the past 40 years, gaining valuable knowledge about the prevalence of the fatal neurological disease.

Chronic wasting disease, or CWD, is caused by abnormal proteins called prions, which attack the immune system and brain of infected animals causing them to display erratic, abnormal behavior.

Over the next two-to-three years after contracting CWD the infected animal becomes emaciated, eventually wasting away due to starvation.

"Recent, sensational headlines likening affected animals to 'zombies' are unfortunate and a bit disappointing," said Dr. Michael Miller, Senior Wildlife Veterinarian for CPW.

"The reality is these animals are just very sick — there's nothing scary or supernatural about it. This is a disease that's been around for quite some time, and it will likely persist for the foreseeable future. Hopefully we can begin making more steady progress on learning how to reduce its prevalence and lessen its effects."

This disease has been an issue that CPW staff and hunters have been talking about for years.

The Colorado Parks and Wildlife Commission heard a presentation on CWD in free-ranging deer and the results of the 2017 mandatory sampling during the Feb. 8 meeting in Denver.

"CWD and wildlife disease is huge problem that we will continue to face. We need to continue working on management options and we need all of our partners to participate in this process," said Bob Broscheid, director of CPW. Without hunters, CPW would have a harder time collecting the information needed to assess the health of Colorado's herds.

For some time CPW has been relying primarily on voluntary submission from hunters to help monitor the disease; but in recent years participation levels have dropped off significantly.

During the 2017 hunting season the agency enacted a mandatory sampling for mule deer bucks in 19 high-priority game management units. The mandatory sampling focused on male deer harvested because all of the targeted units had buck licenses available. Mandatory sampling resulted in a tenfold increase in submission rates in the targeted units compared to the previous year's voluntary rate. Based on this success, different units will be

targeted for the 2018 big game season.

Monitoring has shown that adult male deer have the highest infection rate in herds statewide, which is why CPW focused on this as the most reliable indicator for tracking prevalence trends over time.

The 2017 sampling results show that CWD is stable or has declined in areas where adaptive management practices have been in place for years. The rate of infection in other areas has increased.

"We have a problem in some herds, but we are not facing a crisis," said Matt Eckert, Terrestrial Programs supervisor for CPW.

"The health of our wildlife is our primary concern and we must take management actions now to protect these animals for the long term."

Colorado is fortunate to have some of the leading researchers and biologists on the subject working for the agency. CPW staffers also have a long history of studying and managing mule deer, dating back to the agency's origins. Staff members, hunters and community members conducted an extensive public engagement process to address declines in mule deer, which resulted in the West Slope Mule Deer Strategy. Adopted by the Parks and Wildlife Commission in December 2014 the strategy document

outlines disease monitoring as a priority focus for the agency.

CPW staff provided recommendations for the Commission to consider, but stressed that any management strategy needs to be done methodically and with public engagement.

Where warranted, efforts to control CWD will be most successful with support from communities, landowners, sportsmen and sportswomen to ensure long-term success in managing and suppressing the prevalence of the disease.

"I applaud our staff on their proactive measures to protect wildlife," said Alex Zipp, Parks and Wildlife commissioner. "We need to continue to foster collaboration and encourage more people, organizations and agencies to get involved."

This will be an evolving process as CPW works to consider and test a variety of adaptive management strategies. The involvement of CPW staff and our public will be critical to success as the agency works to manage CWD in Colorado.

For more information about Chronic Wasting Disease visit the CPW website:

<http://cpw.state.co.us/learn/Pages/ResearchCWD.aspx>.

Lauren Truitt is a CPW spokeswoman based in the Denver area.